

Solution Architecture

The solution architecture defines how Salesforce products and custom components are integrated to deliver a modern, efficient airline management platform. It follows a modular, cloud-based, and scalable architecture.

Core Architectural Layers

1. Presentation Layer (User Interface)

- Airline staff portal (built on Salesforce Experience Cloud)
- Passenger self-service portal (check-in, booking, refunds)
- Mobile apps for passengers and crew (via Salesforce Mobile SDK)

2. Application Layer (Core Business Logic)

- **Salesforce Sales Cloud** – Manages passenger profiles, loyalty programs
- **Service Cloud** – Manages customer service, chatbot, support cases
- **Marketing Cloud** – Handles campaigns, engagement journeys
- **Custom Apps** (using Salesforce Platform) – For flight scheduling, baggage tracking, refund workflows

3. Data Layer

- **Salesforce Data Cloud (Customer 360)** – Central repository for passenger data
- **External systems** – Integrated using APIs (e.g. GDS like Sabre, Amadeus; ERP systems)
- **Einstein Analytics / Tableau CRM** – For reporting and dashboards

4. Integration Layer

- **Salesforce Integration Services (MuleSoft)** – Connects Salesforce with:
 - Flight Operations Systems
 - Payment Gateways
 - Government/Regulatory APIs (e.g. visa check)
 - Airport Ground Ops
- **API Layer** – REST/SOAP services for 3rd-party connectivity

5. Security & Compliance Layer

- Role-based access control
- GDPR-compliant data handling
- Salesforce Shield for auditing and encryption (optional)

Simplified Architecture Flow

[Passengers & Agents]



[Experience Cloud / Mobile App]



[Salesforce Core Apps (CRM, Service, Marketing)]



[Custom Logic & Automation (Flows, Apex, LWC)]



[Data Cloud + External Systems via MuleSoft/APIs]



[Analytics Dashboards (Einstein / Tableau CRM)]

Benefits of this Architecture

- **End-to-End Integration** with internal and external airline systems
- **360° View of Customer** for support, loyalty, and marketing
- **Omnichannel Access** for passengers and staff
- **Automation-Ready** for refunds, booking flows, alerts
- **Real-Time Analytics** for flight operations and business KPIs
- **Secure & Scalable** cloud infrastructure